

AMENDMENTS TO THE CLAIMS

Claims 1-14 (Canceled)

15. (Currently amended) A conjugate comprising a bacterial superantigen and an antibody moiety, wherein

the superantigen is ~~staphylococcal enterotoxin E (SEE), SEQ ID NO: 73,~~ comprising regions A to E; and the amino acid sequence of the superantigen is substituted so that no more than 15 ~~wherein at least one~~ amino acid residues in region C are ~~is~~ replaced with ~~a~~ different amino acids, and the amino acid residue positions in region C to be replaced are ~~is~~ at least selected from the group consisting of 74, 75, 76, 77, 78, 79, 80, 81, 82, 83 and 84, such that the substituted superantigen has reduced seroreactivity compared to the superantigen from which it is derived; and

~~the amino acid sequence of the superantigen is substituted so that no more than 15 amino acid residues in region A are replaced with different amino acids, and the amino acid residue positions in region A to be replaced are at least selected from the group consisting of 20, 21, 24 and 27;~~

and wherein the antibody moiety is a full length antibody or any other molecule binding antibody active fragment, which is directed against a cancer-associated cell surface structure.

Claims 16-21 (Canceled)

22. (Currently amended) The conjugate of claim 15 further comprising substitutions of ~~no more than 15~~ amino acid residues in region E, ~~wherein at least one amino acid residue in region E is replaced with a different amino acid, and the amino acid residue position in region E to be replaced is at least selected from the group consisting of 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, and 227.~~

23. (Previously submitted and not entered) The conjugate of claim 22, wherein the ~~mutation~~ ~~substitution~~ is at amino acid residue position 227.

24. (Previously submitted and not entered) The conjugate of claim 23, wherein the ~~SEE~~-amino acid sequence includes the substitutions of ~~R20G, N21T, S24G, R27K, K79E, K81E, K83S, K84S and D227S~~.
25. (Previously submitted and not entered) The conjugate of claim 23, wherein the ~~SEE~~-amino acid sequence includes the substitutions of ~~R20G, N21T, S24G, R27K, K79E, K81E, K83S, K84S and D227A~~.
26. (Currently amended) A conjugate comprising a bacterial superantigen and an antibody moiety, The conjugate of claim 22, wherein the superantigen has the amino acid sequence of SEQ ID NO: 2.
27. (Original) The conjugate of claim 15, wherein the antibody moiety is a Fab fragment.
28. (Original) The conjugate of claim 27, wherein the Fab fragment is C215Fab.
29. (Original) The conjugate of claim 27, wherein the Fab fragment is 5T4Fab.
30. (Previously submitted and not entered) The conjugate of claim 29, wherein the ~~superantigen conjugate~~ has the amino acid sequence of SEQ ID NO: 1.
31. (Canceled)
32. (Canceled)
33. (Canceled)
34. (Original) The conjugate of claim 15, wherein said cancer is selected from the group consisting of lung, breast, colon, kidney, pancreatic, ovarian, stomach, cervix and prostate cancer.

Claims 35-52 (Canceled)

53. (Currently amended) A pharmaceutical composition comprising a therapeutically effective amount of a conjugate, wherein said conjugate comprises a bacterial superantigen and an antibody moiety, wherein

the superantigen is staphylococcal enterotoxin E (SEE), SEQ ID NO: 73, comprising regions A to E, the amino acid sequence of the superantigen is substituted so that no more than 15 wherein at least one amino acid residues in region C are replaced with a different amino acids, and the amino acid residue positions in region C to be replaced are at least selected from the group consisting of 74, 75, 76, 77, 78, 79, 80, 81, 82, 83 and 84 such that the substituted superantigen has reduced seroreactivity compared to the superantigen from which it is derived; and

the amino acid sequence of the superantigen is substituted so that no more than 15 amino acid residues in region A are replaced with different amino acids, and the amino acid residue positions in region A to be replaced are at least selected from the group consisting of 20, 21, 24 and 27;

and wherein the antibody moiety is a full length antibody or any other molecule binding antibody active fragment, which is directed against a cancer-associated cell surface structure.

Claims 54-59 (Canceled)

60. (Currently amended) The pharmaceutical composition of claim 53 further comprising a substitutions of no more than 15 amino acid residues in region E, wherein at least one amino acid residue in region E is replaced with a different amino acid, and the amino acid residue position in region E to be replaced is at least selected from the group consisting of 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, and 227.
61. (Previously submitted and not entered) The pharmaceutical composition of claim 60, wherein the mutation-substitution is at amino acid residue position 227.
62. (Previously submitted and not entered) The pharmaceutical composition of claim 60, wherein the SEE amino acid sequence includes the substitutions of R20G, N21T, S24G, R27K, K79E, K81E, K83S, K84S and D227S.
63. (Previously submitted and not entered) The pharmaceutical composition of claim 60, wherein the SEE amino acid sequence includes the substitutions of R20G, N21T, S24G, R27K, K79E, K81E, K83S, K84S and D227A.

64. (Currently amended) A pharmaceutical composition comprising a therapeutically effective amount of a conjugate and said conjugate comprises a bacterial superantigen and an antibody moiety The pharmaceutical composition of claim 59, wherein the superantigen has the amino acid sequence of SEQ ID NO: 2.
65. (Previously presented) The pharmaceutical composition of claim 53, wherein the antibody moiety is a Fab fragment.
66. (Original) The pharmaceutical composition of claim 64, wherein the Fab fragment is C215Fab.
67. (Original) The pharmaceutical composition of claim 64, wherein the Fab fragment is 5T4Fab.
68. (Previously presented) The pharmaceutical composition of claim 67, wherein the conjugate has the amino acid sequence of SEQ ID NO: 1.
69. (Canceled)
70. (Canceled)
71. (Canceled)
72. (Previously presented) The pharmaceutical composition of claim 53, wherein said cancer is selected from the group consisting of lung, breast, colon, kidney, pancreatic, ovarian, stomach, cervix and prostate cancer.

Claims 73-92 (Canceled)

93. (Currently amended) A conjugate comprising a bacterial superantigen and an antibody moiety, wherein

the superantigen is staphylococcal enterotoxin (SEE) having substitutions of R20G, N21T, S24G, and R27K, and wherein at least one amino acid residue in region C is replaced with a different amino acid, and the amino acid residue position in region C to be replaced is at least selected from the group consisting of 74, 75, 76, 77,

78, 79, 80, 81, 82, 83 and 84, such that the substituted superantigen has reduced seroreactivity;

and wherein the antibody moiety is a full length antibody or any other molecule binding antibody active fragment, which is directed against a cancer-associated cell surface structure.

94. (Currently amended) The conjugate of claim 93 further comprising substitutions of amino acid residues in region E, wherein at least one amino acid residue in region E is replaced with a different amino acid, and the amino acid residue position in region E to be replaced is at least selected from the group consisting of 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, and 227.
95. (Previously submitted and not entered) The conjugate of claim 94, wherein the substitution is at amino acid residue position 227.
96. (Previously submitted and not entered) The conjugate of claim 95, wherein the amino acid sequence includes the substitutions of K79E, K81E, K83S, K84S and D227S.
97. (Previously submitted and not entered) The conjugate of claim 95, wherein the amino acid sequence includes the substitutions of K79E, K81E, K83S, K84S and D227A.
98. (Previously submitted and not entered) The conjugate of claim 93, wherein the antibody moiety is a Fab fragment.
99. (Previously submitted and not entered) The conjugate of claim 98, wherein the Fab fragment is C215Fab.
100. (Previously submitted and not entered) The conjugate of claim 98, wherein the Fab fragment is 5T4Fab.
101. (Previously submitted and not entered) The conjugate of claim 100, wherein the conjugate has the amino acid sequence of SEQ ID NO: 1.

102. (Previously submitted and not entered) The conjugate of claim 93, wherein said cancer is selected from the group consisting of lung, breast, colon, kidney, pancreatic, ovarian, stomach, cervix and prostate cancer.
103. (New) The conjugate of claim 22, wherein the substitution is at amino acid residue position 217, 220, 222, 223, 225 or 227.
104. (New) The pharmaceutical composition of claim 60, wherein the substitution is at amino acid residue position 217, 220, 222, 223, 225 or 227.
105. (New) The conjugate of claim 94, wherein the substitution is at amino acid residue position 217, 220, 222, 223, 225 or 227.